UNITED NATIONS

A

United Nations Conference on Science and Technology for Development

Vienna, Austria, August 1979

Distr.
GENERAL

A/CONF.81/NP.58 (SUM)
20 October 1978

ORIGINAL: ENGLISH

REPUBLIC OF SRI LANKA

SUMMARY OF NATIONAL PAPER*

I. Science and Technology for Development

1. Sri Lanka is today classified as a less developed country (LDC) on the basis of its GNP per capita (Rs. 1,754 or $US 200 in 1976). The rate of economic growth has been slow (3.1 per cent average annual increase in GNP in the decade 1968-1977), and there are about 1 million unemployed in a population of 14 million. In contrast to this situation, Sri Lanka's Physical Quality of Life Index is much higher than that of most other less developed countries.

2. The five subject areas selected for providing illustrative examples relating to the substantive issues in the application of science and technology for development in Sri Lanka are Agriculture, Industry, Health and Sanitation, Housing and Energy.

3. Agriculture is the mainstay of the economy, accounting for one third the GNP, and it is mainly confined to tea, rubber, coconut and rice. The first three crops account for the major foreign exchange earnings, while rice is the staple food. Sri Lanka is still an importer of rice; the highest annual production was in 1977 when 80 million bushels, equal to 75 per cent of the national need, was produced.

4. The main development programme planned for the agricultural sector, other than increasing rice production in areas now under cultivation by the use of improved agricultural practices, is the implementation of a major multipurpose

* The designations employed, the presentation of material and the views expressed in this paper are those of the Government of Sri Lanka and do not necessarily reflect the practices and views of the Secretariat of the United Nations in any of these respects.

irrigation project, the Mahaweli Ganga Development Project. This project is designed to provide irrigation water to 650,000 acres of new land and 250,000 acres of land presently receiving inadequate supplies of water. Originally planned for implementation in 30 years, the project has been reprogrammed for completion of the major works in six years. The implementation of this project will involve major developments in regard to human settlements, the establishment of infrastructures (roads, schools etc.) and the provision of agricultural inputs (tractors, fertilizers, seed paddy etc.). This multipurpose project also involves the installation of a number of hydroelectric power plants.

5. Research and development in agriculture will also focus on other crops besides rice. These include the spice crops (cardamom, cinnamon etc.), legumes, coarse grains, sweet potatoes, chillies, sugar, cocoa and coffee.

6. In the industrial sector, significant development took place only after independence in 1948. Since then, several industries have been established (e.g. paper, tyre, rolled steel, sugar etc.), but the growth of the sector has fallen far short of planned targets. The main unsatisfactory feature of the sector is the high dependence on imported raw materials and machinery. Both research and development (R and D) are inadequate in this sector, but more particularly the development component, resulting in short-comings in regard to the transfer, adaptation and innovation of technology.

7. The main development envisaged for the industrial sector is the establishment of the Export Processing Zone (EPZ) which is expected to attract foreign exchange earnings. Outside the EPZ, efforts will be made to increase production, to reduce the dependence on imported raw materials and to effect process improvements in the industries that have already been established. The establishment of new industries which are labour intensive and suitable for setting up in rural areas will be encouraged.

8. In the sphere of health, there has been a sharp decline in infant mortality (from 140 per 1000 live births in 1946 to 43 in 1971) and an equally spectacular increase in life expectancy (from 44 years to 64 in the same period). The main health problems at present are the incidence of preventible diseases such as bowel infections, diptheria, whooping cough, tetanus, malaria etc., and the lack of adequate potable water. Malaria which had almost been eradicated in 1960 is of serious concern again. The programme for improving health and sanitation includes the control of malaria, intensification of the programme of immunization against childhood infections, improved child and maternity care, and increased provision of pipe-borne water and central sewerage systems. In the sphere of indigenous medicine, action will be taken to expand research activities and to improve the science and technology (S and T) involved in the preparation of ayurvedic medicines.

9. In the housing sector, the main thrust will be towards providing a greatly increased number of housing units, encouraging private house construction

by providing incentives, and pursuing research on developing alternative materials (for building) that could be mass-produced at low cost.

10. Development in the sphere of energy will consist mainly of increasing hydroelectric power generation and extending the programme of rural electrification. Programmes of forestation to provide the future needs of fuelwood (at present fuelwood and agricultural residues account for 60 per cent of the energy consumed) would be implemented.

11. The sustained development of Sri Lanka's economy will depend heavily on the building up of a fully effective indigenous scientific and technological infrastructure and capability. The deficiencies that now exist, and the problems encountered in developing self reliance in S and T are as follows:

(a) Inadequate capacity in R and D resulting in deficiencies in the transfer, adaptation and innovation of technology;

(b) Inadequate managerial capacity;

(c) Lack of easy access to scientific and technological information;

(d) High cost of books, periodicals and scientific equipment;

(e) The heavy exodus of trained manpower (doctors, scientists, engineers, technicians and skilled workers); the expertise available in the country is of a very high standard, but the numbers are diminishing due to the exodus (brain drain).

(f) The inadequacy of training facilities for increasing the numbers of skilled personnel, particularly at the technician level.

II. Institutional arrangements and new forms of international co-operation in the application of science and technology

12. Sri Lanka has lost, and continues to lose, a large proportion of her trained and skilled human resources to the affluent countries. It is recommended that a Special Fund be created (under the auspices of the United Nations), to be subscribed to by the nations that utilize the skilled human resources of the less developed countries, and to be used for increasing the training capacity of the LDCs that lose their trained manpower.

13. With regard to assistance being provided by industrialized countries and international financing institutions to the less developed countries, it is urged that, while continuing aid for development projects, additional assistance be provided to LDCs for developing the S and T human and material infrastructures so that there would be a substantial increase in indigenous R and D. Some developed countries have ongoing programmes for aiding LDCs in increasing their R and D capabilities by strengthening the indigenous institutions (by providing equipment etc.), but there is scope for increased assistance; and other affluent countries could mount similar programmes.

14. Most scientific and technological institutions in the developed countries, while obviously concentrating on research and development relevant to those countries, could also initiate programmes of R and D relevant to problems of LDCs. Such programmes while directly benefiting the LDCs in regard to the R and D output, could also be used for training scientists from these countries.

15. The developed countries could assist the less developed countries in the procurement (at low cost) of technologies that have a high potential for increasing the pace of development (e.g. solar energy technology).

16. Regional co-operation among the less developed countries by joint participation in the manufacture of industrial goods and in the development of S and T in some selected areas would greatly assist the LDCs in the application of science and technology for development; a scheme for mutual co-operation in these fields may be difficult to put into practice but the concept is worth pursuing.

III. Utilization of the existing United Nations system and other international organizations

17. The information explosion taking place in the industrialized countries and the ease of its distribution is in stark contrast to the situation in the less developed countries. There is an urgent need for continued dissemination, at low cost, of S and T information relevant to the LDCs. It is therefore urged that a Global Centre for Science and Technology Information Exchange be established. In addition, Regional Centres should be established under the umbrella of United Nations regional commissions. Apart from their obvious role of information dissemination in relation to scientific and technological development (STD), such regional centres should also undertake printing of scientific books and journals within the region so as to reduce cost of purchase.

18. The basic issues of technology transfer to Sri Lanka relate to terms of trade, adaptation of technology, economies of scale and repatriation of profits. It is necessary to continue the efforts of UNIDO and UNCTAD towards effecting technology transfer on terms that could be accommodated by the LDCs. The United Nations agencies could also assist in training management personnel in the complex problems of analysis of technology transfer and subsequent negotiation with developed countries and private corporations.

19. The concept of Regional Centres for the Transfer of Technology should be actively pursued, and it should be extended to include the establishment of National Centres under the auspices of the regional commissions of the United Nations.

20. Financing institutions within the United Nations system have a responsibility to increase substantially their support for building and enhancing the scientific and technological base in the less developed countries with accelerated and enlarged research and training programmes.

21. It is expected that UNCSTD (1979) will provide an outline for an STD policy and a set of programmes in STD for action by the General Assembly so that the resources of the United Nations system can be better utilized to assist and aid the less developed countries.

22. It is recommended that the UNCSTD secretariat, suitably modified, continues to function after the Conference to ensure the effective implementation of the resolutions and programmes of action that emerge, and that another conference be summoned in five years to assess progress.